
फोरेट, तकनीकी — विशिष्टि

(पहला पुनरीक्षण)

Phorate, Technical — Specification

(First Revision)

ICS 65.100.10

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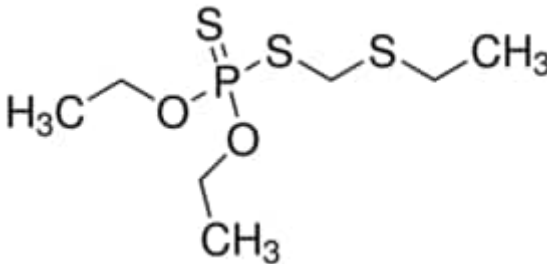
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FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Pesticides Sectional Committee had been approved by the Food and Agriculture Divisional Council.

Phorate is an organophosphorus soil and systemic insecticide used for protection against sucking and chewing insects, mites and certain nematodes infesting various crops.

Phorate is the accepted common name by the International Organization for Standardization (ISO) for O,O-diethyl S-[(ethylthio)-methyl] phosphorodithioate. Its empirical and structural formulae and molecular weight is as listed below:

<i>Empirical Formula</i>	<i>Structural Formula</i>	<i>Molecular Weight</i>
$C_7H_{17}O_2PS_3$		260.4

This standard was first published in 1976. Subsequently, in the year 2020 vide S.O. 1196 (E) dated 20 March 2020, phorate was banned by Government of India for domestic use but continued to manufacture for export. In this revision, the standard has been brought out in the latest style and format of the Indian Standards, and references to Indian Standards wherever applicable have been updated. It also incorporates two amendments issued to this standard.

In the preparation of this standard due consideration has been given to the provisions of the *Insecticides Act*, 1968 and the rules framed thereunder. However, this standard is subject to the restrictions imposed under these, wherever applicable.

The composition of the committee responsible for the formulation of this standard is listed in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard***PHORATE, TECHNICAL — SPECIFICATION***(First Revision)***1 SCOPE**

This standard prescribes the requirements and the methods of sampling and test for phorate, technical.

2 REFERENCES

The standards, given below contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards.

<i>IS No.</i>	<i>Title</i>
IS 1070 : 1992	Reagent grade water — Specification (<i>third revision</i>)
IS 6940 : 1982	Methods of test for pesticides and their formulations (<i>first revision</i>)

*IS No.**Title*

IS 8190 (Part 2) : 1988	Requirements for packing of pesticides: Part 2 Liquid pesticides (<i>second revision</i>)
IS 9359 : 2023	Pesticide — Phorate G encapsulated — Specification (<i>second revision</i>)
IS 10946 : 1996	Methods of sampling for technical grade pesticides (<i>first revision</i>)

3 REQUIREMENTS**3.1 Description**

The material shall be yellow to amber coloured liquid, free from foreign matter and added modifying agents.

3.2 The material shall also comply with the requirements given in Table 1.

Table 1 Requirements for Phorate, Technical
(*Clause 3.2*)

Sl No. (1)	Characteristic (2)	Requirement (3)	Method of Test, Refer to (4)
i)	Phorate content, percent by mass, <i>Min</i>	90	IS 9359
ii)	Material insoluble in acetone, percent by mass, <i>Max</i>	0.5	IS 6940
iii)	Moisture content, percent by mass, <i>Max</i>	0.5	IS 6940
iv)	Acidity (as H ₂ SO ₄) percent by mass, <i>Max</i>	0.5	IS 6940
v)	Specific gravity 27°/27 °C, <i>Min</i>	1.00	IS 6940

4 PACKING

The material shall be packed as per requirement given in IS 8190 (Part 2).

5 MARKING

5.1 The containers shall be securely closed and shall be bear legibly and indelibly the following information:

- a) Name of the material;
- b) Name and address of the manufacturer;

- c) Batch number;
- d) Date of manufacture;
- e) Date of expiry;
- f) Net quantity;
- g) Nominal phorate content;
- h) Cautionary notice as worded in the *Insecticides Act*, 1968, and rules framed thereunder; and

- j) Any other information required under the Legal Metrology (Packaged Commodities) Rules, 2011.

5.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

6 SAMPLING

Representative sample of the material shall be drawn according to IS 10946.

7 TESTS

7.1 Tests shall be carried out by the methods prescribed under col 4 of Table 1.

7.2 Quality of Reagents — Unless specified otherwise, pure chemicals and distilled water (*see* IS 1070) shall be employed in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

ANNEX A
(Foreword)

COMMITTEE COMPOSITION
Pesticides Sectional Committee, FAD 01

<i>Organization</i>	<i>Representative(s)</i>
Directorate of Plant Protection Quarantine and Storage, Faridabad	DR RAVI PRAKASH (Chairperson)
All India Biotech Association, New Delhi	SHRI SAURABH SINGHAL SHRI SHAH JI DHAR (<i>Alternate</i>)
Central Insecticide Board and Registration Committee, Faridabad	SECRETARY DR VANDANA SETH (<i>Alternate</i>)
Central Insecticide Laboratory, Faridabad	DR ARCHANA SINHA SHRI SUBHASH CHAUDHARY (<i>Alternate</i>)
Consumer Guidance Society of India, Mumbai	SHRI SITARAM DIXIT DR M. S. KAMATH (<i>Alternate</i>)
Crop Care Federation of India, New Delhi	DR J. C. MAJUMDAR
Crop Life India, New Delhi	SHRI ASITAVA SEN MS NIRUPAMA SHARMA (<i>Alternate</i>)
CSIR -Indian Institute of Toxicology Research, Lucknow	DIRECTOR DR SHEELENDRA P. SINGH
FMC India Private Limited, Bengaluru	SHRI CHIRAG PATEL
Food Safety and Standards Authority of India, New Delhi	ADVISOR (STANDARDS)
IDMA Laboratories Limited, Chandigarh	DR INDRA RAI
Indian Agricultural Research Institute, New Delhi	DIRECTOR
Indian Institute of Packaging, Mumbai	DR TANWEER ALAM
Indian Pest Control Association, New Delhi	SHRI UDAYAN GHOSH
Institute of Pesticide Formulation Technology, Gurgaon	DR M. VAIRAMANI
Ministry of Agriculture, Department of Agriculture, Chennai	JOINT DIRECTOR OF AGRICULTURE (<i>RES</i>) DEPUTY DIRECTOR LAB (<i>Alternate</i>)
National Centre for Integrated Pest Management, New Delhi	DR SUMITRA ARORA
National Institute of Plant Health Management, Hyderabad	DR MAHESH SAINI MS T. SRIDEVI (<i>Alternate</i>)
Pesticide Manufactures and Formulators Association of India (PMFAI), Mumbai	DR ARCHANA SRIVASTAVA DR UDAY KUMAR (<i>Alternate</i>)
Regional Pesticides Testing Laboratory, Chandigarh	SHRI V. VASU

IS 7976 : 2023

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SHRI VIPIN SAINI

BIS Directorate General

SHRIMATI SUNEETI TOTEJA, SCIENTIST 'E'/DIRECTOR
AND HEAD (FOOD AND AGRICULTURE)
[REPRESENTING DIRECTOR GENERAL (*Ex-officio*)]

Member Secretary
SHRI KULDEEP MITTAL
SCIENTIST 'B'/ASSISTANT DIRECTOR
(FOOD AND AGRICULTURE), BIS

Bureau of Indian Standards

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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